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changeNOW

Biodiversity: A major risk and an immediate opportunity for companies

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Agenda

1. How much is biodiversity worth?
2. Why should companies act on biodiversity loss now?
3. Global leaders are already tackling the biodiversity loss issue, but pain points must be lifted to go further
4. What are the concrete solutions and action plans for companies?

Méthodologie utilisée dans notre étude

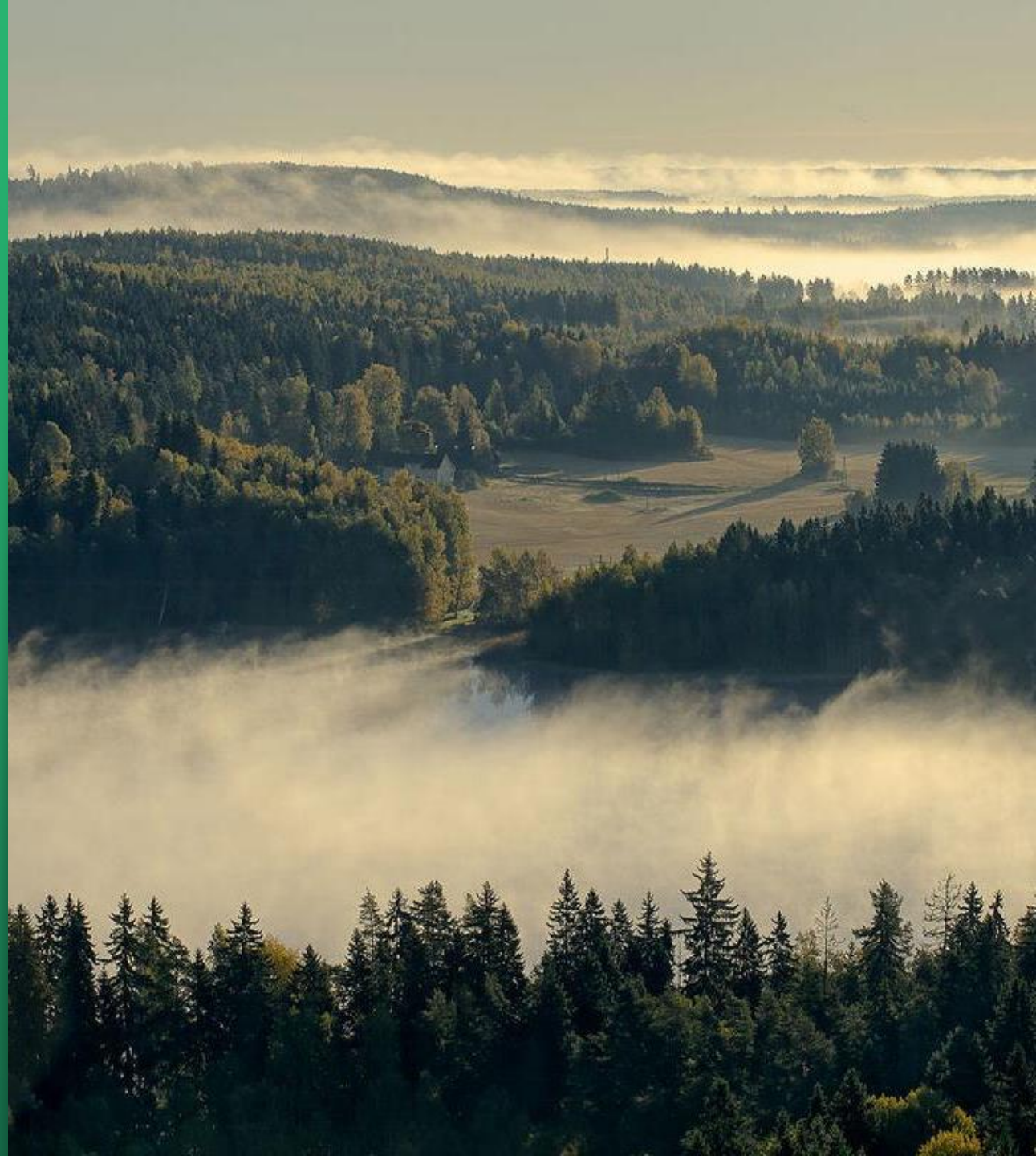
Analyse des rapports annuels

- Périmètre : ensemble des entreprises du CAC40
- Les critères regardés sont les actions déjà mises en place en faveur de la biodiversité, les engagements futurs et les KPIs surveillés par l'entreprise
- Des exemples d'actions vis-à-vis de la biodiversité incluent des initiatives sur les déchets et l'eau, des partenariats avec des ONG, des coalitions, la participation à des fonds d'investissement, la création de labels exigeants, la mise en place de charte fournisseurs, l'usage ou la création d'outils de pilotage de l'impact, la création d'une fondation, la R&D, la gouvernance, la mise en place d'une stratégie dédiée, la présence sur la matrice de matérialité, etc.
- Notre étude est basée sur des engagements spécifiques à la biodiversité en excluant les engagements climat qui sont un sujet déjà bien pris en compte aujourd'hui

Entretiens avec des dirigeants d'entreprises

- Périmètre : ~30 entreprises dans les secteurs agricoles/viticoles, pharmaceutiques, de la cosmétique, de la chimie, de l'énergie, des déchets et du retail
- Entretiens utilisés dans le cadre de notre étude pour :
  - Identifier les obstacles rencontrés par les entreprises lorsqu'elles se saisissent du sujet de la préservation de la biodiversité
  - Comprendre comment les entreprises peuvent aller plus loin dans leurs actions en faveur de la biodiversité
  - Illustrer d'exemples les quatre étapes de la méthodologie conseillée afin d'avoir un impact positif sur la biodiversité (cf. partie 4 de la présentation)
  - Lister une liste de partenaires potentiels à chaque étape de cette méthodologie

How much is biodiversity worth?



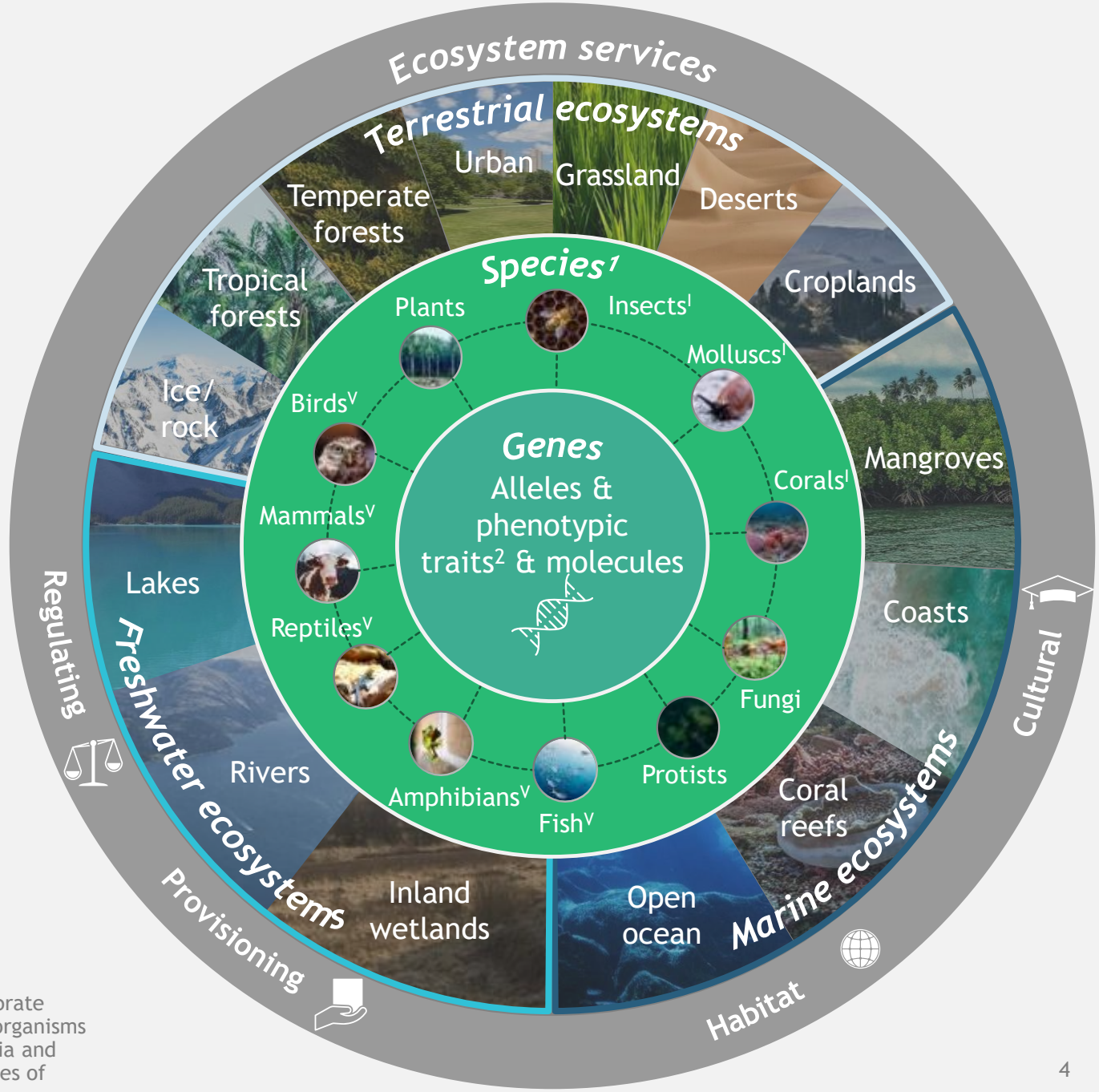
What is biodiversity?

Biodiversity comprises three types of diversity on Earth, whose interplay generates valuable services

I. Genetic diversity

II. Species diversity

III. Ecosystem diversity



Notes: Grasslands includes heath and bushes; species classified in plants, vertebrate animals (V), invertebrate animals (selection) (I), fungi and protists (single-cell organisms such as brown algae); IUCN definition does not include micro-organisms, bacteria and viruses; alleles are variants of genes; Phenotypic traits are visual character states of organisms. Sources: IPBES (2019); IUCN (2019); BCG analysis

Ecosystem services provide four types of benefits to humans

Provisioning

Food

Genetic & medical resources

Raw materials (incl. freshwater)

Habitat

Refugia & nursery service

Soil formation

Regulating

Climate regulation

Waste treatment

Erosion prevention

Air quality

Nutrient cycling

Biological control

Pollination

Water regulation

Disturbance moderation

Cultural

Recreation

Cultural heritage

Spiritual values

Education & inspiration

Note: Some differences in name and categorization exist. Bold green font denotes largest contributor of value to each category.
Source: De Groot et al. 2012.; Costanza, R. et al; 2014

People and businesses rely heavily on ecosystem services and natural resources…

Economic and carbon related 'dependency to biodiversity' examples

>50%	of global GDP is dependent on high-functioning biodiversity and its services
5.6 Gt	of carbon p.a. (>10 % of global emissions) are sequestered by marine and terrestrial ecosystems i.e. $560 bn with a price of $100 a ton

Other 'dependency to biodiversity' examples

>75%	of global food crops including fruits, vegetables, almonds and coffee rely on animal pollination
>50%	of habitable land area is used for agriculture, 80% thereof for grazing and feedstuff production
70%	of antibiotics and cancer drugs are natural or synthetic products inspired by nature

Source: IPBES (2019), WEF, Our World in Data

…however, human activities ignite significant pressure on ecosystems…

Extraction & cultivation | Production | Service provision | Consumption

Land and sea use change: habitat conversion (e.g., deforestation), fragmentation, and degradation through over-intensive use of ecosystems

Direct over-exploitation: overexploitation of animals, plants, and ecosystems, e.g., from poaching, unsustainable logging or overfishing

Climate change: shifts in temperature, precipitation, and wind flows caused by increased levels of greenhouse gases in atmosphere

Pollution of soil, water and air: release of harmful substances, e.g., through excessive chemical use, into ecosystems; light and noise pollution

Spread of invasive species: plants, animals or other non-native organisms entering or expanding into a given habitat

Source: IPBES (2019); UNEP (2019); WWF Living Planet Report (2018), OECD (2019), Hallmann et al. (2017), BCG analysis

…leading to a severe decline in global biodiversity

68 % less vertebrates

Since 1970, populations of mammals, birds, amphibians, reptiles, and fish declined by ~68 %, and ~94% in tropical America

85 % lost wetlands

Biodiversity-rich wetlands declined by 85% since pre-industrial times—on average, 75% of land ecosystems have been changed by humans

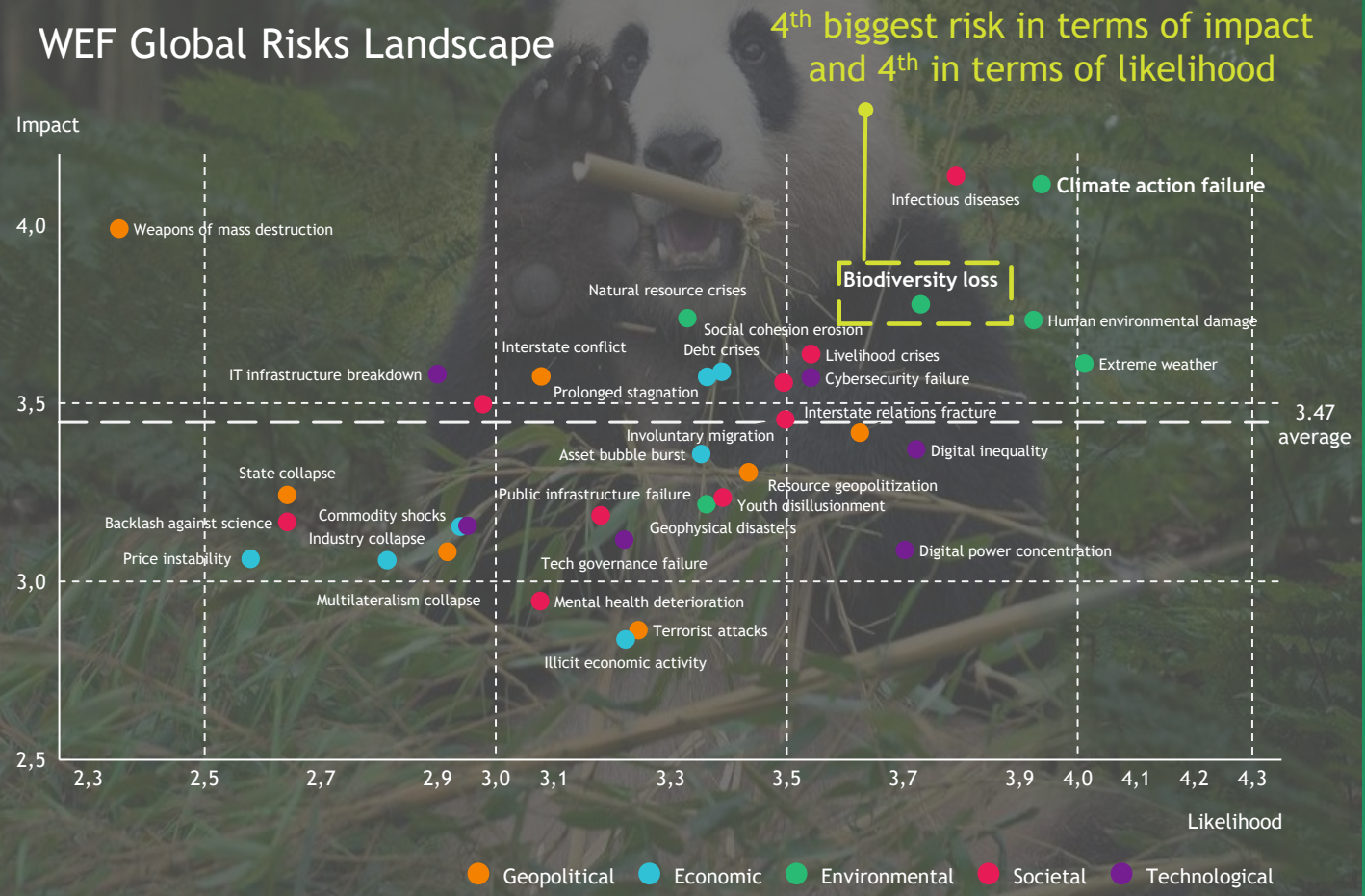
75 % decline of insects

>75 % of flying insect biomass in protected areas was lost within only 27 years

>10x more livestock

The total biomass of livestock (100 Mt C) far exceeds the biomass of wild mammals (7 Mt C) and birds (2 Mt C)

Biodiversity loss is classified as a risk w/ high likelihood and high impact



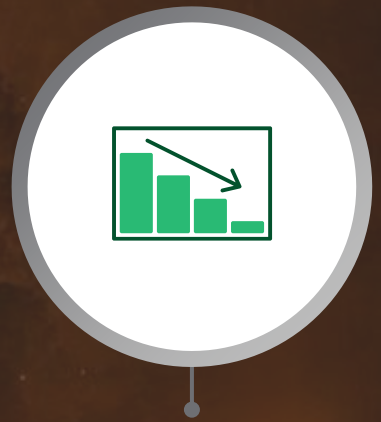
Source: World Economic Forum Global Risk Report 2021 (edited); BCG analysis

…and has risen in the ranking by the World Economic Forum compared to other major global risks in past years

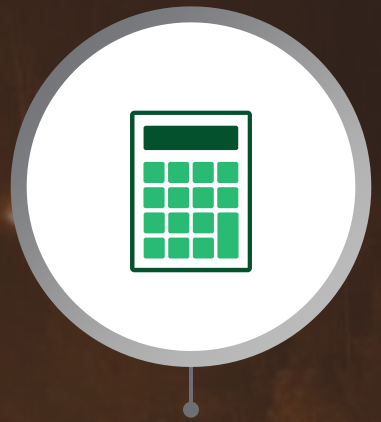
- Biodiversity is crucial for securing the supply of goods and protecting key infrastructure
- Strong interlinkage of biodiversity loss to other environmental risks, such as climate change and infectious diseases

Biodiversity loss costs the global economy $5-25 trillion each year

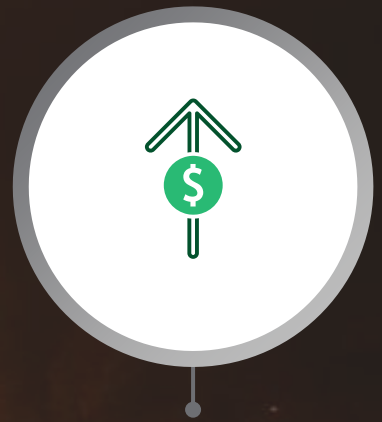
Based on already lost ecosystem area, the economy forfeits ~$5-25T in ecosystem services each year



In 2010, the EU estimated an annual Ecosystem Service Value loss of $2.6T (~3% of global GDP)[1] while TEEB[2] estimated ecosystem area loss alone to have lower annual ESV by $4-20T between 1997 and 2011[3]



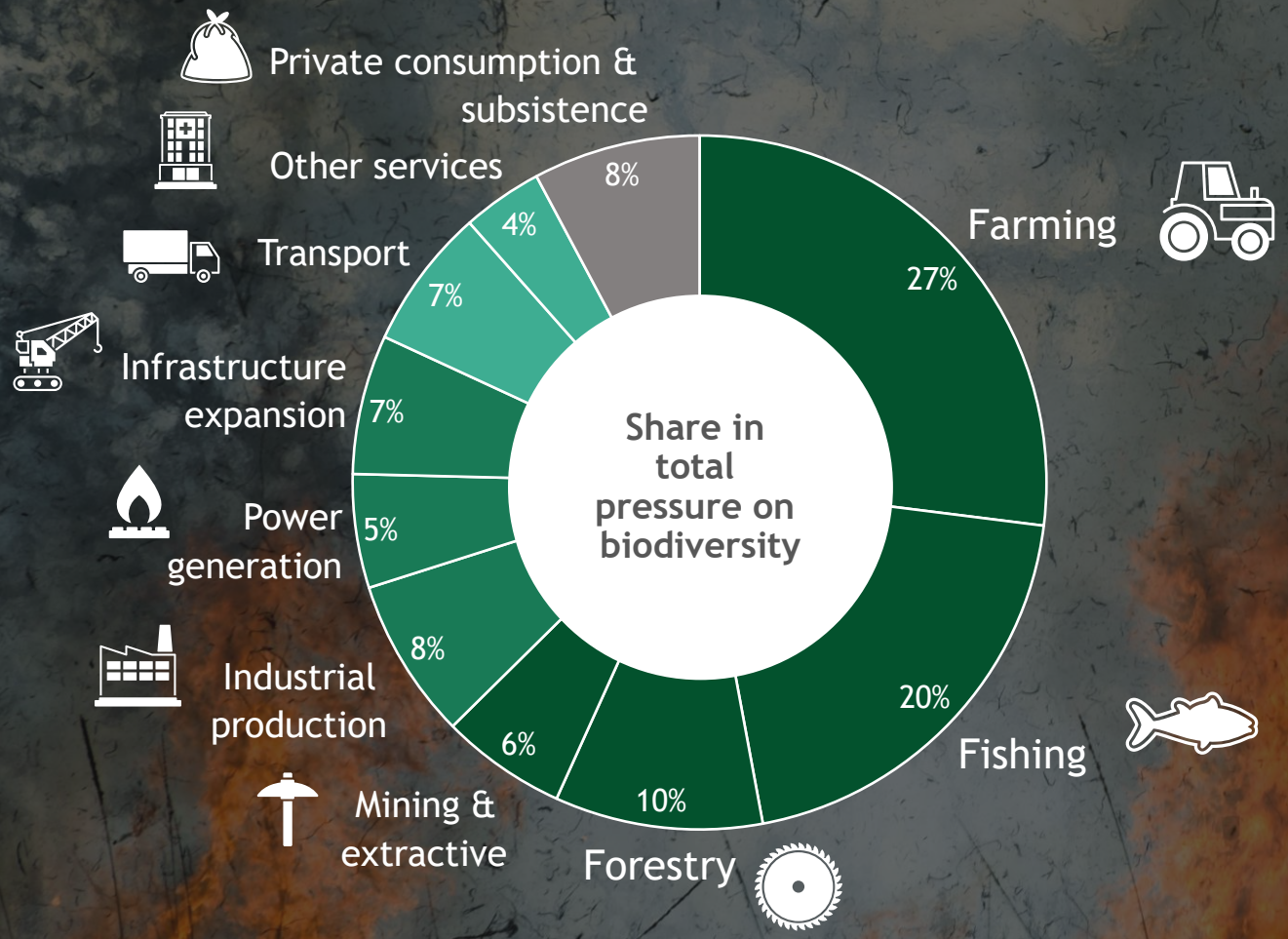
Updating those estimates based on economic growth, updated carbon price, inflation, etc., we derived an estimate of $5-25T annual services that are already lost



If degradation through pollution, drying out, spread of diseases, etc. were included, estimated damage would be even higher

Source: 1. European Environment Agency 2. The Economics of Ecosystems and Biodiversity 3. Constanza et al. 2014; BCG analysis

Extractive activities including farming are predominant sources of pressure



Note: Extraction of other plant and animal materials (e.g., officinal plants, animal fibers) not separately covered
Source: IPBES (2019), WWF (2018), BCG

Value chain step
- Primary sector
- Secondary sector
- Tertiary sector
- Consumption

All sectors have a key role to play in biodiversity; in particular, fashion, food & beverage and infrastructure, which have primary activities that rely on farming, fishing, forestry, account for ~60% of biodiversity pressure

Why should companies act on biodiversity loss now?

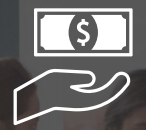
Increasing regulation and awareness among stakeholders drive risks and opportunities for corporates

Regulatory pressure is increasing

- In 2021, UN Convention on Biological Diversity (CBD) will release new targets that are expected to inspire binding regulation among members
- EU outlined ambitious regulatory plans in its 2030 Biodiversity & Farm to Fork Strategies—law on deforestation-free supply chains is upcoming

Consumers are shifting their purchasing behaviour

- Biodiversity loss now perceived as second-largest environmental challenge after climate change[1]
- Public perception of companies and industries with negative environmental impact is worsening[2] —consumers have started to shift their purchasing behavior[3]

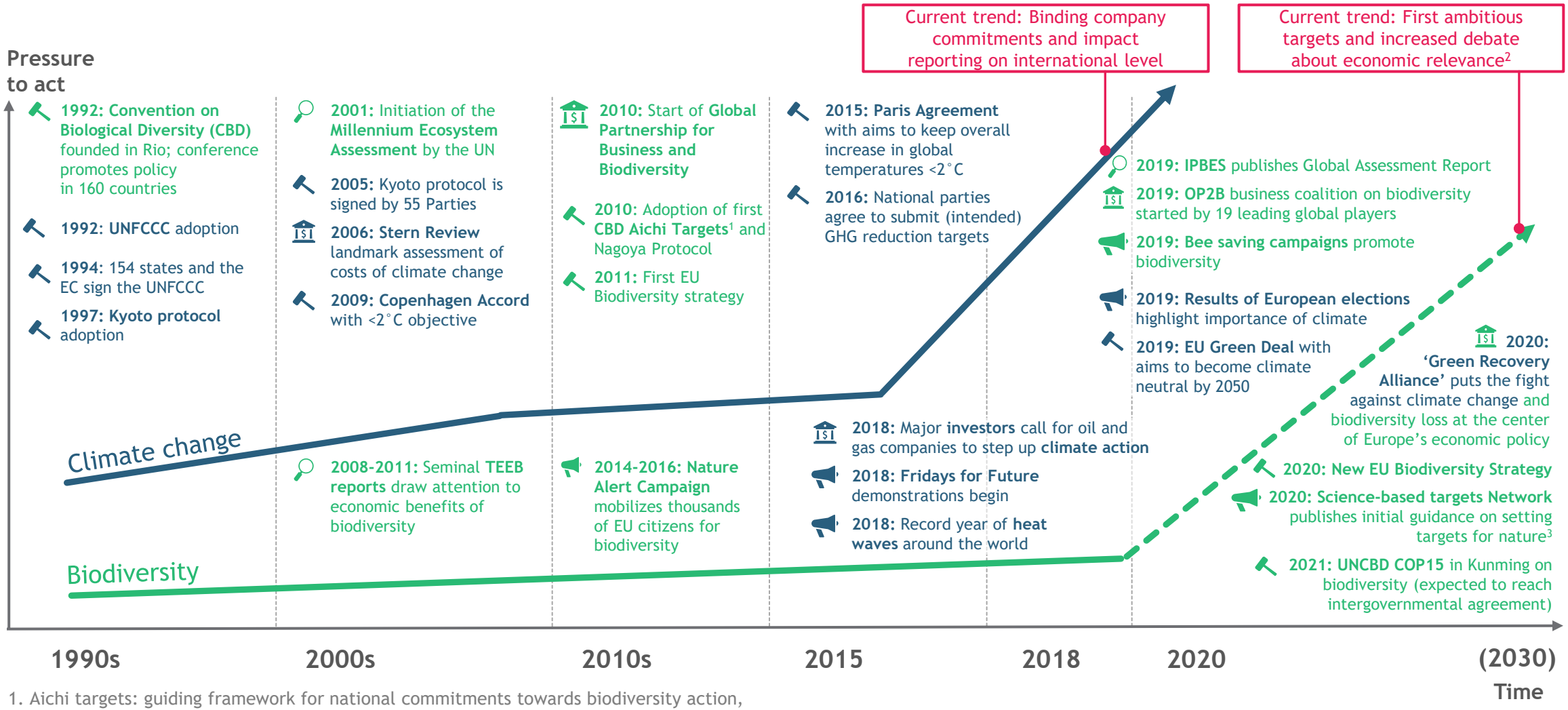


Investors are demanding transparency and action

- Traditional investors began disinvesting sectors that operate unsustainably and frequently challenge companies' commitments
- Recent calls by major European investors show increasing focus on biodiversity

1. The GlobeScan-SustainAbility Survey of 800 experts representing business, government, NGOs; 2. Quid and BCG Center for Growth & Innovation Analytics;
3. e.g., *2019 Pulse of the Fashion Industry* report; Other sources: EU Commission; UN CBD; The Guardian; Financial Times; Allianz; BCG research

Pressure to act on climate change has skyrocketed after 2015 – current developments predict similar surge for biodiversity after 2020



1. Aichi targets: guiding framework for national commitments towards biodiversity action, signed by over 190 countries; 2. Increased debate on biodiversity amongst others through COVID-19; 3. Nature here used equivalent to biodiversity; Source: UN, CBD, BCG analysis

Multilateral treaty or policy | Science | Social | Private sector | Trends

Companies can benefit from tackling biodiversity

…by mitigating risks

Prevent supply chain disruptions

- Biodiversity loss threatens your resource supply…
- …and enhances global warming and exposure to risks like flooding, erosion, or pandemics
- Global costs of inaction already >$5 trillion p.a.

Avoid regulatory restrictions and costs

…given increasing policy ambitions

Maintain social license to operate

…given awareness among consumers and investors

…and seizing benefits

Expand to new markets or business fields

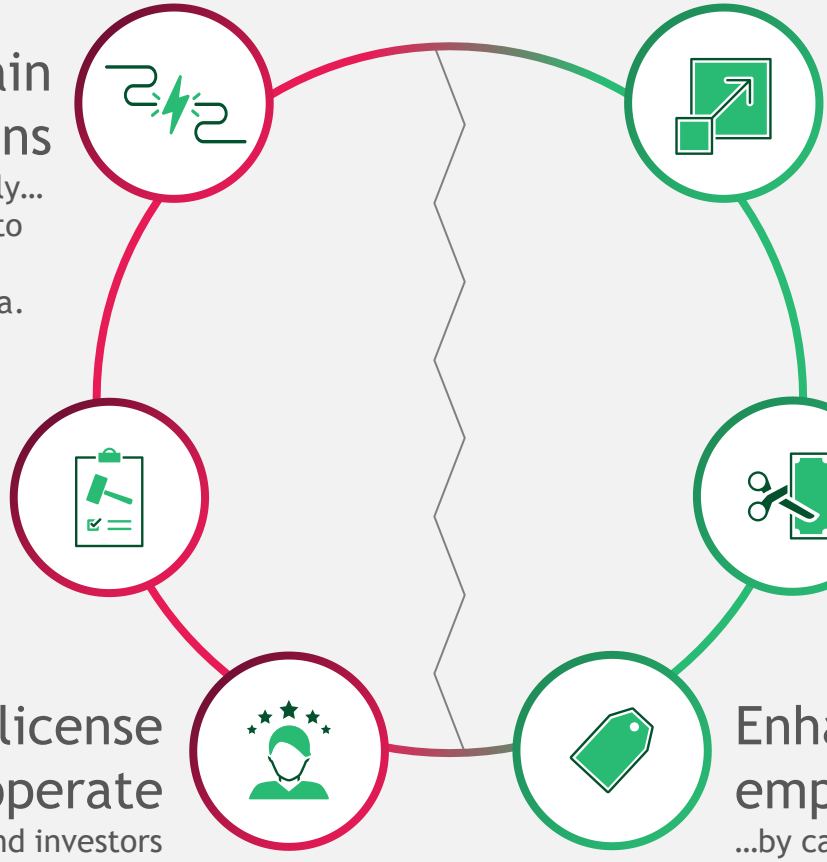
- Capture B2B demand for enabling technology (e.g., precision farming; climate technologies)
- Capture B2C demand for biodiv.-friendly products
- Monetize ecosystem service restoration

Reduce operating and funding costs

- Synergies
- Better access to capital via green funds

Enhance value proposition & employer attractiveness

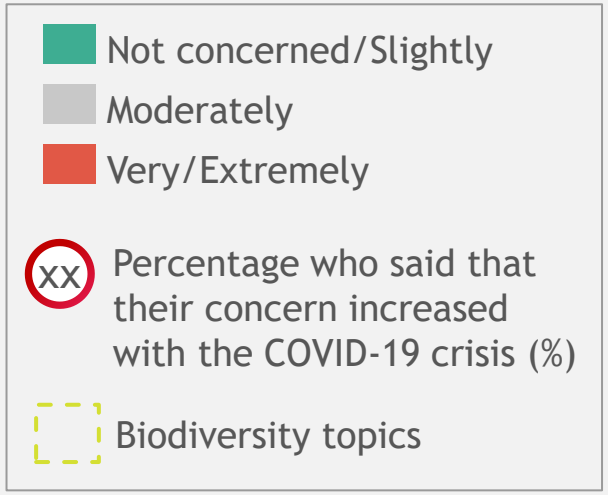
…by catering to priorities of esp. young generations

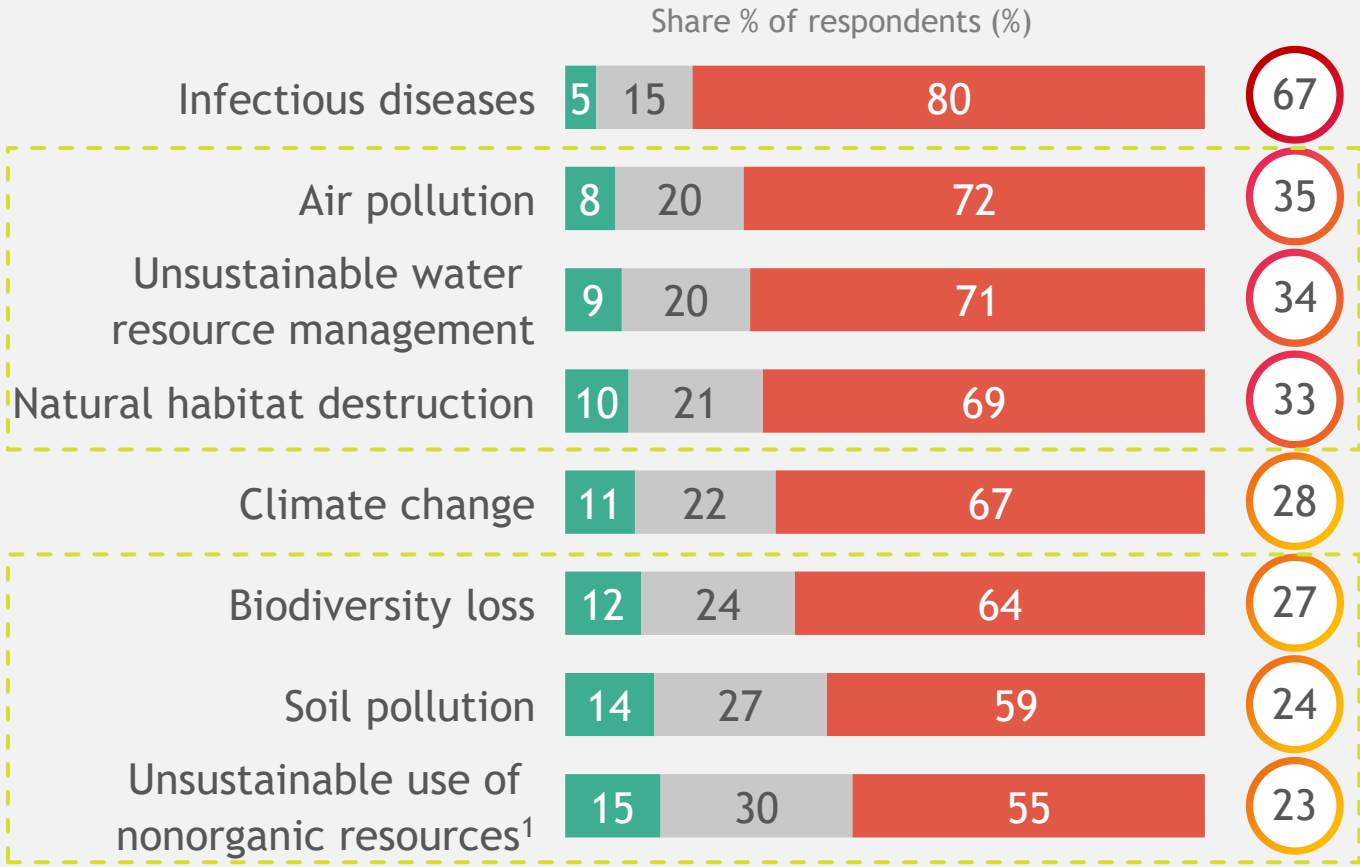


Source: BCG

The public has become more concerned about environmental issues since the COVID outbreak began

How concerned are you now about the following challenges?





1. Nonorganic resources" refers mainly to resources used for mining, oil and gas extraction, and plastics use.
Source: BCG Survey on COVID-19 and Environment, conducted May 20–29, 2020, in Brazil, China, France, India, Indonesia, South Africa, the UK, and the US. Number of respondents N = 3,249.

Global leaders are already tackling the biodiversity loss issue, but pain points must be lifted to go further

Some CAC40 companies are tackling this issue with bold commitments…

48% — mention the implementation of a charter with their suppliers in order to enforce responsible and sustainable practices

33% — have designed a specific strategy regarding biodiversity preservation and positive impact

28% — are part of coalitions promoting biodiversity or environmental issues

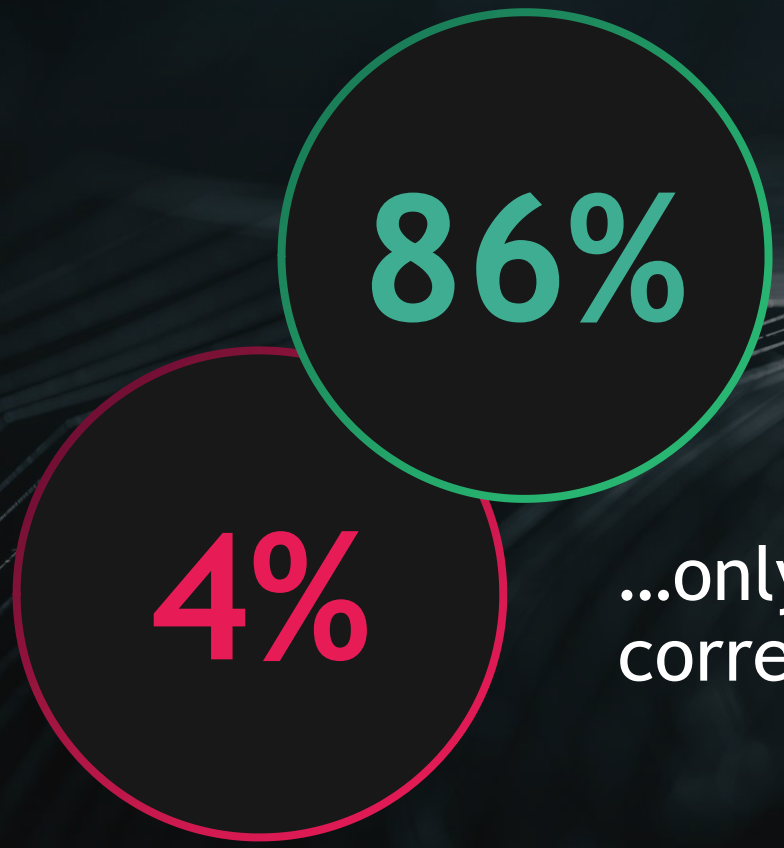
25% — have listed "preservation of biodiversity" on their materiality matrix but only 5% as an important[1] issue

3.3

Retail is the most advanced sector with an average grade[2] of 3.3 out of 5 regarding biodiversity issues, the overall average being 2.3

Source: BCG analysis; (1) important meaning high impact for both shareholders and stakeholders; (2) grade given via BCG analysis looking at CAC40 companies' biodiversity related initiatives (partnerships, tools, governance, labels, funds, roadmap, etc.) and the level of ambition set for the future

…but lack of information can be a major obstacle in companies' first strategic approach to biodiversity



While 86% of leading corporations[1] said they have or plan to develop a biodiversity strategy in the next two years…

…only 4% feel well-informed about the correct actions to take

Source: Quantis [1]Out of 29 respondents

Delivering on those commitments is challenging—and companies may struggle to…

1. …define biodiversity and footprint & dependency to it
2. …align on targets, integrate them in their strategy and set up a governance to support it
3. …detail and measure relevant KPIs on several disparate topics which can be hard to monitor
4. …take action and engage different actors along the value chain including civil society

Source: BCG experience

Illustration of challenges faced by companies

1 Defining biodiversity and footprint & dependency to it

- No unique nor common definition of biodiversity
- Difficult to assess footprint beyond greenhouse gas emissions
- Technicality and broadness of biodiversity topics
- Absence of global traction from civil society to help companies go further on biodiversity
  - No unique point of contact
  - Most of NGOs not used to work with companies

2 Aligning on targets and governance

- Biodiversity is presented as an urgent and global matter, but issues are very local making global targets hard to establish
- Wide variety of ecosystems to consider while setting an ambition (e.g. sea, forests, mountains, animals, plants, etc.)
- Requires expertise usually not existing internally today and need to be legitimate at executive level

3 Measuring relevant KPIs and monitor progress

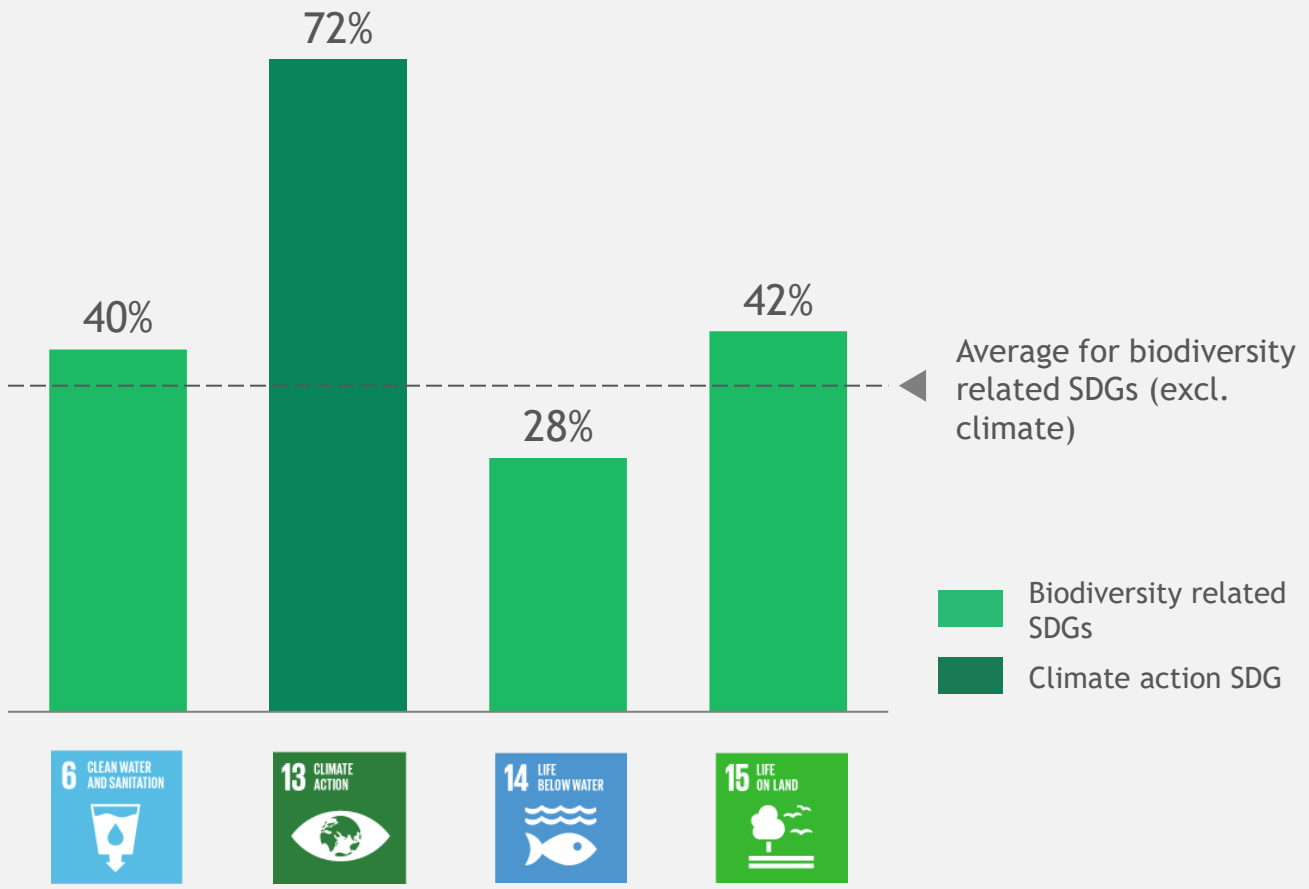
- Lack of common understanding, definitions, and data points to dialogue on biodiversity
- Complexity in measuring and reporting biodiversity impacts (KPIs, metrics, etc.)

4 Taking action and engaging the value chain

- Challenging to engage biodiversity issues with suppliers when representing only a small portion of their revenue
- Can be hard to find alternative suppliers on niche products/markets
- Need to educate final customers on the impact of their buying power

Biodiversity-related UN SDGs are less prioritized than the climate action SDGs

% of companies that have prioritized each SDG among companies that have prioritized SDGs



Source : BCG analysis (sample: SBF120 – 2020)

What are the concrete solutions and action plans for companies?

The proposed framework for biodiversity action: four stages to biodiversity-positive business

4 **Taking action** and engaging the **value chain**

Advanced biodiversity support
Strengthen ecosystems beyond your footprint to build resilient value chains & enhance your environmental impact while engaging all stakeholders

Innovation
Transform value chains and make biodiversity **part of your business model** through innovative products, services, and technology

Footprint management
Avoid or reduce negative biodiversity impact through operating/sourcing standards and process optimization, promote integrated land-use, and restore prior damages

3 Measuring **relevant KPIs**

- Define relevant KPIs to reach defined targets
- Ensure infrastructure and processes are in place to keep track of progress
- Disclose your footprint and progress

2 Aligning on **targets** and **governance**

- Integrate biodiversity in your strategy and develop a narrative for stakeholders
- Set actionable, science-based targets
- Set-up a specific governance to support strategy (incl. incentives, etc.)

1 Defining **biodiversity** and **footprint & dependency** to it

- Define how your company interacts with biodiversity
- Identify key issues across landscapes
- Identify key issues across your value chain

Partnerships and coalitions can be leveraged all along the 4 stages

Source: BCG

Stage 1: Defining biodiversity and footprint & dependency to it

The H&M example

H&M partnered with WWF to set the ambition of reducing its pressure on biodiversity and having a net positive impact in the longer term

Interactions with biodiversity

H&M investigated on its interactions with biodiversity and concluded that it must avoid over-exploitation of natural resources. This is essential for the wellbeing of people and nature, but also for the resilience of their supply chain and their business

Key issues across landscapes

H&M Group's ambition on biodiversity required a biodiversity footprint assessment to identify the biggest impact locations of its business

Key issues across value chains

H&M audited its value chain to realize that the fashion industry impacts biodiversity on all levels of the value chain: raw materials, fabric/yarn production, transportation and use – but raw material production is where H&M Group has its biggest impact

Partners

Non exhaustive

Impact auditing NGOs:
- WWF
- Conservation without borders

Tools:
- ENCORE
- IBAT
- Global Biodiversity Score
- LCA tools

Strategy consulting firms

Audit & accounting firms

Source: company website, interview with company executive, company annual report

Stage 2: Aligning on targets and governance

Examples *(non exhaustive)*

Michelin is committed by 2030 to implement resilient agricultural practices that improve the productivity and quality of land and soil. To achieve this, Michelin works specifically on sustainable cultivation of natural rubber and plans to make it a global standard

L'Oréal announced its vision for corporate responsibility for 2030 as part of the L'Oréal Program for the Future, which specifies a set of objectives in terms of climate, biodiversity, water and use of natural resources

Many companies have indexed part of the variable compensation of their top management on CSR criteria

Partners

Non exhaustive

NGOs:
- Noé
- IUCN

Science Based Targets Network

Strategy consulting firms

Source: company website, interview with company executive, company annual report

Stage 3: Measuring relevant KPIs and monitoring progress

Examples *(non exhaustive)*

CLARINS

Clarins has designed a 'Green score' for their formulas and a 'Pack score' for their packaging, which are used to arbitrate on the launch of a new product

KERING

To guide its sustainability strategy, Kering has developed the Environmental P&L which measures carbon emissions, water consumption, air and water pollution, land use, and waste production along the entire supply chain to convert them into monetary values and quantify the use of natural resources

Kering is committed to achieving a "positive net impact" on biodiversity by 2025. To do so, they have pledged to protect one million hectares of critical and irreplaceable habitats outside their supply chain and to facilitate the transition to regenerative agricultural practices on another million hectares in landscapes where Kering's supply chain raw materials such as leather, cotton, wool or cashmere are produced and harvested

Partners

Non exhaustive

NGOs:
- Tenaka
- EverGreening

Bio-measurement start-ups:
- Satellite deforestation tools (eg: Satelligence)
- Carbon sequestration (eg: Carbon Engineering)
- Biodiversity measurement tools (eg: Greenback)

Tools:
- ENCORE
- IBAT
- Global Biodiversity Score
- LCA tools

Source: company website, interview with company executive, company annual report

Stage 4: Taking action and engaging the value chain

Examples *(non exhaustive)*

Footprint management

Patagonia established the Regenerative Organic Certification (ROC), the world's highest-bar organic designation. It encompasses organic farming and then raises the bar, prioritizing building soil health

Innovation

One Planet Business for Biodiversity (OP2B) is an international cross-sectorial coalition on biodiversity with a specific focus on agriculture. It is determined to drive systemic change and catalyze action to protect & restore cultivated and natural biodiversity, engage financial decision-makers, and promote policy recommendations

Advanced biodiversity support

The Rocher Group, Clarins, L'Oréal and Coty have joined forces around the Responsible Beauty Initiative (RBI): an initiative that aims to encourage and accelerate ethical, social and environmental performance throughout their supply chain

Partners

Non exhaustive

Start-ups:
- Plant for the planet
- SLA

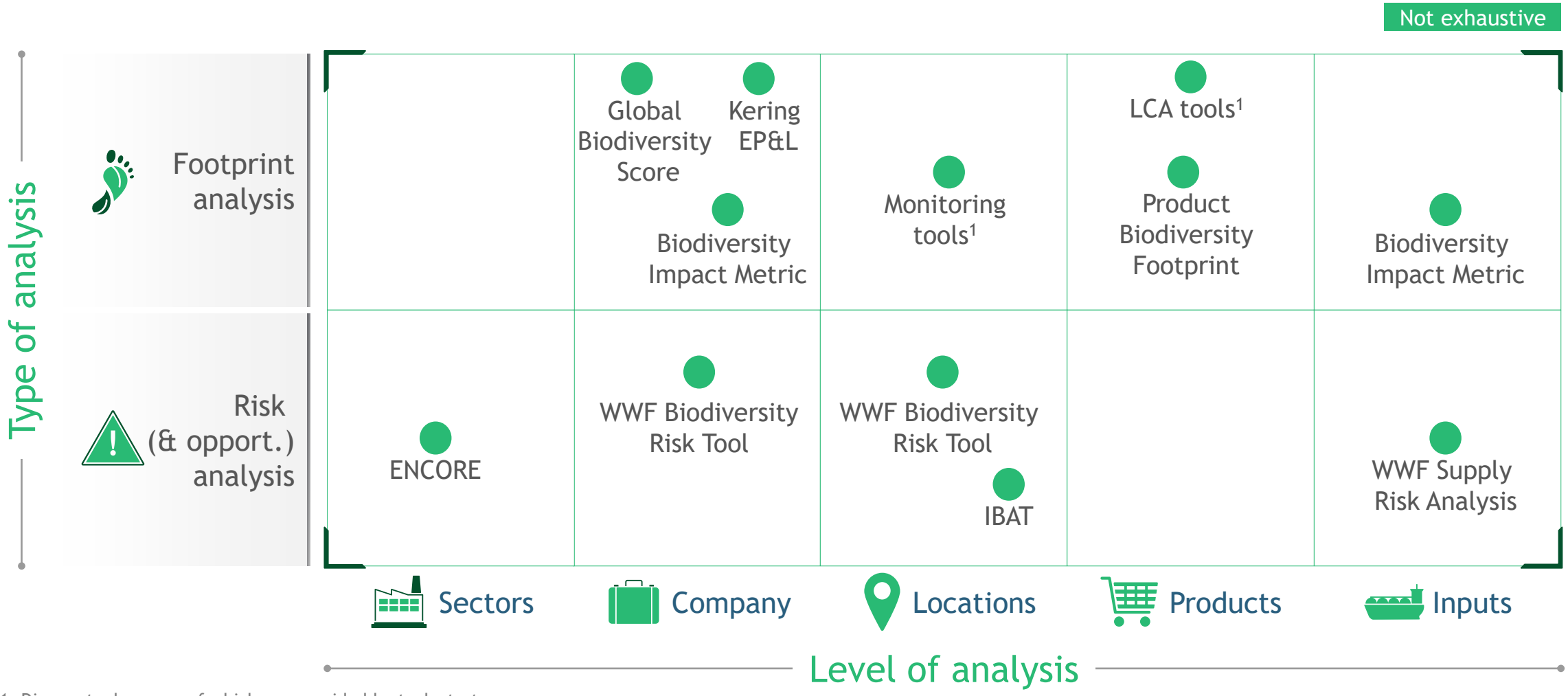
Regulators

Financial actors

Civil society

Source: company website, interview with company executive, company annual report

The landscape of tools for identifying biodiversity issues



1. Diverse tools, many of which are provided by tech start-ups
Note: LCA = Life Cycle Assessment
Source: WWF, BCG

A growing ecosystem of partners can support businesses in their transformation

Science Based Targets Network to provide expertise, frameworks and data

Platforms and events to network and find solutions together

Financial actors to provide financial support and synergies to achieve the transformation

NGOs to dispense specific knowledge on various niche topics and gather the right actors to form coalitions

Regulators to lay set up a legal and regulatory framework favorable to companies committing to biodiversity

Start-ups to supply measuring and eco-scoring tools to monitor progress

Civil society to push companies to change their business habits and ways of working

Audit & accounting firms to audit the business' extra-financial performance and impact

Strategy consulting firms to help defining a strategy, structuring it and implementing it

We define 17 ambitious biodiversity objectives to guide action across value chains

Source: BCG analysis

First movers will gain competitive advantage enabling:

Access to new markets

Stronger value proposition

Employee retention

Lower financing costs

How to quickly get going on this urgent topic

1. Realize biodiversity can be both a major risk and opportunity
2. Assess your maturity on biodiversity framework and build action plan
3. Select the 3 to 4 most relevant biodiversity objectives to be addressed by your company
4. Put into action: control your footprint, drive innovation, and support biodiversity even beyond your own business

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